

**ABSTRACT OF THE DISCLOSURE**

To fabricate fiber gratings according to the present invention, an optical fiber is prepared, and a mask with 5 a predetermined period is spaced from the optical fiber for forming patterns to be used in fabricating gratings on the optical fiber. Then, a UV light source projects UV light in a perpendicular direction to the optical fiber, while a lens focuses the UV light. At the same time, a mobile concave lens diverges the focused UV light along the length direction of the optical fiber and changes the period of the fiber gratings while moving to and away from the optical fiber.